CONTENTS OF VOLUME 44

Ackman, R. G. The identification of dimethyl-β-propriothetin in the algae *syracosphaera carterae* and *ulva lactuca*. C. S. Tocher, R. G. Ackman, and J. MacLachlan, 519.

Lipids of the fin whale (*Balaenoptera physalus*) from North Atlantic waters. III. Occurrence of eicosenoic and docosenoic fatty acids in the zooplankter *Meganyctiphanes norvegica* (M. Sars). R. G. Ackman and C. A. Eaton, 1561.

Alexander, J. C. A nutritional comparison of rapeseed oil and soybean oil. J. C. Alexander and F. H. Mattson, 35.

Ali, S. S. Excretion of bile acids by three men on a fat-free diet. S. S. Ali, A. Kuksis, and J. M. R. Beveridge, 957.

Excretion of bile acids by three men on corn oil and butterfat diets. S. S. Ali, A. Kuksis, and J. M. R. Beveridge, 1377.

Allen, T. M. Multiple forms of lactate dehydrogenase and aspartate aminotransferase in herring (*Clupea harengus harengus* L.). P. H. Odense, T. M. Allen, and T. C. Leung, 1319.

Anastassiadis, P. A. Hexosamine, sialic acid, fucose, seromucoid, and protein levels of sera of some species. D. L. Grant, D. G. Dale, and P. A. Anastassiadis, 937.

Anderson, P. J. Pyrocatecholphthalein as a substrate for catechol *O*-methyltransferase. P. J. Anderson and A. D'Iorio, 347.

Antia, N. J. Enolase activity in marine planktonic algae. N. J. Antia, J. Kalmakoff, and A. Watt, 449.

Anwar, R. A. Comparison of elastins from various sources. R. A. Anwar, 725.

Aprile, M. A. Passive cutaneous anaphylaxis induced in guinea pigs by insulins and their component chains. S. Wilson, M. A. Aprile, and L. Sasaki, 989.

The effectiveness of exogenous guinea pig insulin in the ox insulin immune guinea pig. M. A. Aprile, A. E. Tirpak, and P. J. Moloney, 1417.

Babson, A. L. Determination of acid phosphatase activity in tissue homogenates. J. P. Manning, A. L. Babson, M. C. Butler, and S. F. Priester, 755.

Baer, E. Phosphonolipids. VI. Chemical and enzymatic degradation for study of structure. E. Baer and N. Z. Stanacev, 893.

Lipoamino acids. Synthesis of amino acid esters of phosphatidyl glycerols. E. Baer and K. V. J. Rao, 899.

Baker, C. M. A. Species, tissue, and individual specificity of low ionic strength extracts of avian muscle and other organs revealed by starch-gel electrophoresis. C. M. A. Baker, 853.

Baxter, N. The in vivo antitumor activity of certain short chain fatty acids. G. F. Townsend, N. Baxter, W. H. Brown, and E. E. Felauer, 209.

Bayley, S. T. Solubilization and heterogeneous nature of proteins from ribosomes of pea-seedling buds. A. M. MacQuillan and S. T. Bayley, 1221.

Beacham, L. H. Amino acid metabolism of different mammalian cell lines. R. A. Chung, R. W. Brown, L. H. Beacham, and I-L. Huang, 1145.

Behki, R. M. Metabolism of amino acids in *Agrobacterium tumefaciens*. I. Uptake of L-valine by resting cells. R. M. Behki and R. M. Hochster, 1477.

Benjamin, D. C. Effects of starch concentration on the resolution of serum proteins by gel electrophoresis. A six-species comparison. W. A. Krotoski, D. C. Benjamin, and H. E. Weimer, 545.

Erratum: Effects of starch concentration on the resolution of serum proteins by gel electrophoresis. A six-species comparison. W. A. Krotoski, D. C. Benjamin, and H. E. Weimer, 1569.

Bennett, A. F. Lipid biosynthesis in the boll weevil. Formation of the acetate precursor for lipid synthesis from glucose and related carbohydrates. E. N. Lambremont and A. F. Bennett, 1597.

Berlinguet, L. Proteolytic enzymes in normal and dystrophic mouse muscle. L. Berlinguet and U. Srivastava, 613.

Metabolism of *N*-acetyl-L-aspartic acid in mice. L. Berlinguet and M. Laliberté, 783.

Beveridge, J. M. R. Quantitative precipitation of various 3β-hydroxysterols with digitonin. H. L. Haust, A. Kuksis, and J. M. R. Beveridge, 119.

Excretion of bile acids by three men on a fat-free diet. S. S. Ali, A. Kuksis, and J. M. R. Beveridge, 957.

Excretion of bile acids by three men on corn oil and butterfat diets. S. S. Ali, A. Kuksis, and J. M. R. Beveridge, 1377.

Beznak, M. The metabolism of catecholamines in hyperthyroid and vitamin B_{12} deficient rats. L. Proulx, A. D'Iorio, and M. Beznak, 1577.

Bhatty, M. K. Useful procedures for the determination of complex fatty acid composition. Occurrence of *trans*-5-hexadeceno and *trans*-5,*cis*-9-octadecadienoic acids in the oil from *Thalictrum venulosum*. M. K. Bhatty and B. M. Craig, 311.

Biaglow, J. E. Enzymes of pentose biosynthesis. I. Separation of pentose cycle enzymes of *Escherichia coli*. W. Yaphe, D. D. Christensen, J. E. Biaglow, M. A. Jackson, and H. Z. Sable, 91.

Binette, Y. Study of the metabolism of 2-hydroxy-4-aminobutyric acid, a product of γ-hydroxyglutamic acid decarboxylation. L. P. Bouthillier, J. J. Pushpathadam, and Y. Binette, 171.

Binns, W. Teratogenic compounds of *Veratrum californicum* (Durand). I. Preparation and characterization of fractions and alkaloids for biologic testing. R. F. Keeler and W. Binns, 819.

Birmingham, M. K. Tests for 11β-hydroxyprogesterone and other C-21 steroids. H. Traikov and M. K. Birmingham, 291.

Black, W. J. Kinetic studies on the mechanism of cytoplasmic L-α-glycerophosphate dehydrogenase of rabbit skeletal muscle. W. J. Black, 1301.

Blakely, E. R. Inhibition of yeast metabolism by 2-deoxyglucose, 6-deoxy-6-fluoroglucose and the corresponding galactose derivatives. E. R. Blakley, T. Myoda, and J. F. T. Spencer, 927.

Blanchaer, M. C. Factors influencing the utilization of reduced nicotinamide adenine dinucleotide by pigeon heart mitochondria. M. C. Blanchaer, C.-G. Lundquist, and T. J. Griffith, 105.

Control of reduced nicotinamide-adenine dinucleotide oxidation by pigeon-heart mitochondria. M. C. Blanchaer and T. J. Griffith, 1527.

Blatt, W. F. Tissue lactic dehydrogenase isozymes. Developmental patterns in the neonatal rat. W. F. Blatt, C. M. Blatteis, and M. Mager, 537.

Blatteis, C. M. Tissue lactic dehydrogenase isozymes. Developmental patterns in the neonatal rat. W. F. Blatt, C. M. Blatteis, and M. Mager, 537.

Bohm, B. A. Conjugates of hydroxycinnamic acids and glucose in some gymnosperms. C. W. Glennie and B. A. Bohm, 281.

Naphthoquinone biosynthesis in higher plants. I. Studies on 2-hydroxy-1,4-naphthoquinone in *Impatiens balsamina* L. D. Chen and B. A. Bohm, 1389.

Boileau, S. Distribution of the nucleases of the microsomal fraction of rat liver between ribosomes and endoplasmic membranes. G. de Lamirande, S. Boileau, and R. Morais, 273.

Bouthillier, L. P. Study of the metabolism of 2-hydroxy-4-aminobutyric acid, a product of γ-hydroxyglutamic acid decarboxylation. L. P. Bouthillier, J. J. Pushpathadam, and Y. Binette, 171.

Braná, H. Activating effect of purines on the liver tryptophan pyrrolase system. F. Chytil, J. Skřivanová, and H. Braná, 283.

Brewster, M. A. Studies on solubilized adenylate kinase from mitochondria. M. A. Brewster and E. S. Younathan, 1469.

Brockerhoff, H. Positional distribution of fatty acids in the fats of a polar bear and a seal. H. Brockerhoff, R. J. Hoyle, and P. C. Huang, 1519.

Brown, R. W. Amino acid metabolism of different mammalian cell lines. R. A. Chung, R. W. Brown, L. H. Beacham, and I-L. Huang, 1145.

Brown, W. H. The in vivo antitumor activity of certain short chain fatty acids. G. F. Townsend, N. Baxter, W. H. Brown, and E. E. Felauer, 209.

Butler, M. C. Determination of acid phosphatase activity in tissue homogenates. J. P. Manning, A. L. Babson, M. C. Butler, and S. F. Priester, 755.

Bygrave, F. L. Interaction of the microsome fraction with glycolytic enzymes in preparations from Ehrlich ascites tumor cells. F. L. Bygrave, 1061.

Cahill, G. F., Jr. Fatty acid synthesis and control in brown adipose tissue homogenates. G. Steiner and G. F. Cahill, Jr., 1587.

Caldwell, I. C. The enzymic formation of 6-(methylmercapto)purine ribonucleoside 5′-phosphate. I. C. Caldwell, J. F. Henderson, and A. R. P. Paterson, 229.

Erratum: The enzymic formation of 6-(methylmercapto)purine ribonucleoside 5′-phosphate. I. C. Caldwell, J. F. Henderson, and A.R.P. Paterson, 1291.

Carroll, K. K. Synthesis and characterization of 1- and 2-monoglyceryl ethers of anteiso fatty alcohols, and reinvestigation of benzylidene glycerol synthesis. B. Serdarevich and K. K. Carroll, 743.

Carroll, P. M. The estimation of adenine nucleotides in rat uterus by thin-layer chromatography. P. M. Carroll and J. C. Graham, 529.

Cereijo-Santaló, R. The role of magnesium in the oxidation of external reduced nicotinamide adenine dinucleotide by rat liver mitochondria. R. Cereijo-Santaló, 67.

Mitochondrial swelling at acid pH. R. Cereijo-Santaló, 695.

The respiratory dependent swelling of liver mitochondria. R. Cereijo-Santaló, 1259.

Chalvardjian, A. Mode of action of choline. I. Fatty acid composition of liver, serum, and adipose tissue of choline-deficient rats. A. Chalvardjian, 713.

Chan, J. Y. S. Studies on plasminogen. IV. Alteration of bovine and human plasminogens during isolation. J. Y. S. Chan and E. T. Mertz, 469.

Studies on plasminogen. V. Purification of bovine and human plasminogens by Sephadex chromatography. J. Y. S. Chan and E. T. Mertz, 475.

Studies on plasminogen. VI. Activation products of bovine and human plasminogens. J. Y. S. Chan and E. T. Mertz, 487.

Chan, T. H. Synthesis of glycerol-1,3-diphosphate. M. Kates, B. Palameta, and T. H. Chan, 707.

Chandra, P. Studies on the biosynthesis of volucrisporin. II. Metabolism of some phenylpropanoid compounds by *Volucrispora aurantiaca* Haskins. P. Chandra, G. Read, and L. C. Vining, 403.

Chaudhary, K. D. Aldolase activity in confused flour beetle, *Tribolium confusum* Duval (Tenebrionidae, Coleoptera). K. D. Chaudhary, U. Srivastava, and A. Lemonde, 155.

In vivo synthesis and breakdown of deoxyribonucleic acid in *Tribolium confusum* Duval. K. D. Chaudhary and A. Lemonde, 1571.

Chen, L. D. Naphthoquinone biosynthesis in higher plants. I. Studies on 2-hydroxy-1,4-napthoquinone in *Impatiens balsamina* L. D. Chen and B. A. Bohm, 1389.

Chisholm, C. M. D. Biosynthesis of mustard oil glucosides. VII. Formation of sinigrin in horseradish from homomethionine-2-^{14}C and homoserine-2-^{14}C. M. D. Chisholm and L. R. Wetter, 1625.

Christensen, D. D. Enzymes of pentose biosynthesis. I. Separation of pentose cycle enzymes of *Escherichia coli*. W. Yaphe, D. D. Christensen, J. E. Biaglow, M. A. Jackson, and H. Z. Sable, 91.

Chung, R. A. Amino acid metabolism of different mammalian cell lines. R. A. Chung, R. W. Brown, L. H. Beacham, and I-L. Huang, 1145.

Chytil, F. Activating effect of purines on the liver tryptophan pyrrolase system. F. Chytil, J. Skřivanová, and H. Braná, 283.

Postnatal changes in β-galactosidase activity in the jejunum and ileum of mice, rabbits, and guinea pigs. O. Koldovský, A. Heringová, V. Jirsová, F. Chytil, and J. Hošková, 523.

Clark, M. C. Characterization of deoxyribonucleic acid from *Streptomyces scabies*. C. H. Lawrence and M. C. Clark, 1685.

Cole, E. R. The hydrolysis of phenylalanine methyl ester by bovine thrombin. E. R. Cole, J. L. Koppel, and J. H. Olwin, 1051.

Colvin, J. R. Rearrangement of glucose molecules during synthesis of bacterial cellulose. R. G. Everson and J. R. Colvin, 1567.

Common, R. H. Studies on the livetins of egg yolk. III. Heterogeneity and immunoelectrophoretic behavior of beta-livetin. S.-F. Hui and R. H. Common, 1357.

Connell, G. E. Fragmentation of immunoglobulin during storage. G. E. Connell and R. H. Painter, 371.

Cook, W. H. Separation and properties of pig-serum lipoproteins. M. Janado, W. G. Martin, and W. H. Cook, 1201.

Cossins, E. A. Participation of the glyoxylate cycle in the metabolism of ethanol by castor bean endosperm tissues. C. A. Peterson and E. A. Cossins, 423.

Occurrence and some properties of *N*-5,*N*-10-methylenetetrahydrofolate dehydrogenase in plants. K. F. Wong and E. A. Cossins, 1400.

Craig, B. M. Useful procedures for the determination of complex fatty acid composition. Occurrence of *trans*-5-hexadecenoic and *trans*-5,*cis*-9-octadecadienoic acids in the oil from *Thalictrum venulosum*. M. K. Bhatty and B. M. Craig, 311.

Dale, D. G. Hexosamine, sialic acid, fucose, seromucoid, and protein levels of sera of some species. D. L. Grant, D. G. Dale, and P. A. Anastassiadis, 937.

Danforth, W. F. Surface uptake of the azo dye luxol ARN by human platelets. R. M. Lycette, W. F. Danforth, J. L. Koppel, and J. H. Olwin, 161.

Dass, C. M. S. Structural changes associated with the release of enzymes from rat-liver mitochondria by freezing. C. V. Lusena and C. M. S. Dass, 775.

Denstedt, O. F. The metabolism of the erythrocyte. XVI. Incorporation of glucose into adenine nucleotides by human and rabbit erythrocytes. S. V. Manohar, O. F. Denstedt, and D. Rubinstein, 59.

Depocas, F. Heterogeneity and differential fragility of rat liver mitochondria. C. V. Lusena and F. Depocas, 497.

Desai, I. D. Valine sensitivity of *Escherichia coli* K-12. I. D. Desai and W. J. Polglase, 1403.

Dillon, W. W. Heterogeneity of insulin. I. Isolation of a chromatographically purified, high-potency insulin and some of its properties. W. W. Dillon and R. G. Romans, 1171.

Dingle, J. R. Glycolytic metabolites and their distribution at death in the white and red muscle of cod following various degrees of antemortem muscular activity. D. I. Fraser, W. J. Dyer, H. M. Weinstein, J. R. Dingle, and J. A. Hines, 1015.

Constituents of the hemolymph of the lobster, *Homarus americanus* Milne Edwards. J. E. Stewart, J. R. Dingle, and P. H. Odense, 1447.

D'Iorio, A. The activity of lactate dehydrogenase isozymes during thyroxine-induced tadpole metamorphosis. H. C. Kim, A. D'Iorio, and W. K. Paik, 303.

Pyrocatecholphthalein as a substrate for catechol *O*-methyltransferase. P. J. Anderson and A. D'Iorio, 347.

The influence of cocaine on the metabolism of adrenaline in vivo and on the storage and release of catecholamines in isolated chromaffin granules. K. Missala, E. Fitt, and A. D'Iorio, 585.

The metabolism of catecholamines in hyperthyroid and vitamin B_{12} deficient rats. L. Proulx, A. D'Iorio, and M. Beznak, 1577.

The effect of thyroxine on the uptake and metabolism of ^{3}H-DL-adrenaline by the small intestine of rat in vitro. G. Keswani and A. D'Iorio, 1607.

Dolan, G. Phenylalanine toxicity in rats. G. Dolan and C. Godin, 143.

Donisch, V. Metabolism of Ehrlich ascites tumor in vitro. Subcellular distribution of phospholipids newly formed from ^{14}C-labeled precursors. V. Donisch and R. J. Rossiter, 1461.

Dryden, E. E. Relation of the metabolism of pigeon-muscle mitochondria to the net uptake of potassium and its selection over sodium. G. J. Marcus, J. F. Manery, and E. E. Dryden, 1133.

Durzan, D. J. The occurrence and role of α-keto-δ-guanidinovaleric acid in white spruce (*Picea glauca* (Moench) Voss). D. J. Durzan and R. G. Richardson, 141.

Dyer, W. J. Glycolytic metabolites and their distribution at death in the white and red muscle of cod following various degrees of antemortem muscular activity. D. I. Fraser, W. J. Dyer, H. M. Weinstein, J. R. Dingle, and J. A. Hines, 1015.

Eaton, C. A. Lipids of the fin whale (*Balaenoptera physalus*) from North Atlantic waters. III. Occurrence of eicosenoic and docosenoic fatty acids in the zooplankter *Meganyctiphanes norvegica* (M. Sars). R. G. Ackman and C. A. Eaton, 1561.

Ecobichon, D. J. Enzymic activities in pre-rigor and post-rigor sarcoplasmic extracts of chicken pectoral muscle. J. M. Neelin and D. J. Ecobichon, 735.

Hydrolases and dehydrogenases of chicken tissue. D. J. Ecobichon, 1277.

Eik-Nes, K. B. On the formation of testosterone by the perfused rabbit testis. L. L. Ewing and K. B. Eik-Nes, 1327.

Eisen, A. Z. A general method for the isolation and purification of phosvitin from vertebrate eggs. R. A. Wallace, D. W. Jared, and A. Z. Eisen, 1647.

El Basyouni, S. H. Biosynthesis of oosporein in *Beauveria bassiana* (Bals.) vuill. S. H. El Basyouni and L. C. Vining, 557.

Epstein, B. J. Estrogen synthesis in normal and hypogonadal men. Quantitative studies on the precursor role of testosterone. B. J. Epstein, M. C. Raheja, E. Frow, and W. I. Morse, 971.

Evans, R. J. Chemical and enzymatic determinations of available lysine in raw and heated navy beans (*Phaseolus vulgaris*) M. L. Kakade and R. J. Evans, 648.

Everson, R. G. Rearrangement of glucose molecules during synthesis of bacterial cellulose. R. G. Everson and J. R. Colvin, 1567.

Ewing, L. L. On the formation of testosterone by the perfused rabbit testis. L. L. Ewing and K. B. Eik-Nes, 1327.

Fawcett, D. M. The binding of ^{131}iodide by cell-free thyroid homogenates measured by equilibrium dialysis. D. M. Fawcett, 1669.

Felauer, E. E. The in vivo antitumor activity of certain short chain fatty acids. G. F. Townsend, N. Baxter, W. H. Brown, and E. E. Felauer, 209.

Finlayson, A. J. Degradation of the carbon skeleton of glutamic acid. A. J. Finlayson, 397.

Incorporation of ^{14}C into two proteins from rapeseed (*Brassica napus* L.). A. J. Finlayson, 997.

Fitt, E. The influence of cocaine on the metabolism of adrenaline in vivo and on the storage and release of catecholamines in isolated chromaffin granules. K. Missala, E. Fitt, and A. D'Iorio, 585.

Fraser, D. I. Glycolytic metabolites and their distribution at death in the white and red muscle of cod following various degrees of antemortem muscular activity. D. I. Fraser, W. J. Dyer, H. M. Weinstein, J. R. Dingle, and J. A. Hines, 1015.

Frow, E. Estrogen synthesis in normal and hypogonadal men. Quantitative studies on the precursor role of testosterone. B. J. Epstein, M. C. Raheja, E. Frow, and W. I. Morse, 971.

Funnell, H. S. A quantitative method for the determination of cholinesterase activity after starch-gel electrophoresis. H. S. Funnell and W. T. Oliver, 953.

Gaebler, O. H. Isotope effects in metabolism of ^{14}N and ^{15}N from unlabeled dietary proteins. O. H. Gaebler, T. G. Vitti, and R. Vukmirovich, 1249.

Gamborg, O. L. Aromatic metabolism in plants. II. Enzymes of the shikimate pathway in suspension cultures of plant cells. O. L. Gamborg, 791.

Gehrke, C. W. Physicochemical properties of S-zone and base proteins in gluten. Y. H. Oh, B. E. Sanders, and C. W. Gehrke, 917.

Giroud, C. J. P. The rate of formation of C-21 steroid sulfates from 4-^{14}C-progesterone by human newborn adrenal slices. G. P. Klein and C. J. P. Giroud, 1005.

Biological activity of corticosterone and 11-deoxycorticosterone C-21 ester sulfates compared with that of the corresponding steroid-free alcohols. G. P. Klein and C. J. P. Giroud, 1505.

Glennie, C. W. Conjugates of hydroxycinnamic acids and glucose in some gymnosperms. C. W. Glennie and B. A. Bohm, 281.

Godin, C. Phenylalanine toxicity in rats. G. Dolan and C. Godin, 143.

Changes in the amino acid content of the first three leaves of Rideau wheat following vernalization. P. Weinberger and C. Godin, 1035.

Graham, J. C. The estimation of adenine nucleotides in rat uterus by thin-layer chromatography. P. M. Carroll and J. C. Graham, 529.

Grant, D. L. Hexosamine, sialic acid, fucose, seromucoid, and protein levels of sera of some species. D. L. Grant, D. G. Dale, and P. A. Anastassiadis, 937.

Griffith, T. J. Factors influencing the utilization of reduced nicotinamide adenine dinucleotide by pigeon heart mitochondria. M. C. Blanchaer, C.-G. Lundquist, and T. J. Griffith, 105.

Control of reduced nicotinamide-adenine dinucleotide oxidation by pigeon-heart mitochondria. M. C. Blanchaer and T. J. Griffith, 1527.

Haines, D. S. M. The effects of choline deficiency and choline re-feeding upon the metabolism of plasma and liver lipids. D. S. M. Haines, 45.

Erratum: The effects of choline deficiency and choline re-feeding upon the metabolism of plasma and liver lipids. D. S. M. Haines, 661.

Halcrow, S. D. On the in vitro development of pseudo-tryptophan synthase activity by extracts of *Neurospora crassa* mutant strains *td*$_8$ and *td*$_{120}$. S. D. Wainwright, S. D. Halcrow, and L. J. Metcalfe, 651.

Hathcock, J. N. Uncoupling of oxidative phosphorylation by vanadate. J. N. Hathcock, C. H. Hill, and S. B. Tove, 983.

Hatina, G. Use of liver homogenates for studies on the intracellular site of ubiquinone biosynthesis. W. E. J. Phillips, M. Hidiroglou, and G. Hatina, 1615.

Haust, H. L. Quantitative precipitation of various 3β-hydroxysterols with digitonin. H. L. Haust, A. Kuksis, and J. M. R. Beveridge, 119.

Henderson, J. F. The enzymic formation of 6-(methylmercapto)purine ribonucleoside 5′-phosphate. I. C. Caldwell, J. F. Henderson, and A. R. P. Paterson, 229.

Erratum: The enzymic formation of 6-(methylmercapto)purine ribonucleoside 5′-phosphate. I. C. Caldwell, J. F. Henderson, and A. R. P. Paterson, 1291.

Heringová, A. Postnatal changes in β-galactosidase activity in the jejunum and ileum of mice, rabbits, and guinea pigs. O. Koldovský, A. Heringová, V. Jirsová, F. Chytil, and J. Hošková, 523.

Hidiroglou, M. Use of liver homogenates for studies on the intracellular site of ubiquinone biosynthesis. W. E. J. Phillips, M. Hidiroglou, and G. Hatina, 1615.

Hill, C. H. Uncoupling of oxidative phosphorylation by vanadate. J. N. Hathcock, C. H. Hill, and S. B. Tove, 983.

Hill, P. Agents affecting lipid metabolism. XXIII. The effect of an inhibitor of cholesterol biosynthesis on the incorporation of precursors of phosphatides in rat serum and tissues. P. Hill and J. G. Rochefort, 1239.

Incorporation of citrate-1,5-^{14}C and ^{3}H-palm acid and the composition of the β-acyl chain phosphatides in rat tissues. P. Hill, 1285.

Hines, J. A. Glycolytic metabolites and their distribution at death in the white and red muscle of cod following various degrees of antemortem muscular activity. D. I. Fraser, W. J. Dyer, H. M. Weinstein, J. R. Dingle, and J. A. Hines, 1015.

Hobkirk, R. Biosynthesis of steroid sulfates by a rat liver preparation. H. R. Raud and R. Hobkirk, 657.

Peripheral interconversion of phenolic steroids in the human. R. Hobkirk, M. Nilsen, and E. Purre, 1211.

Hochster, R. M. On the biosynthesis of pseudouridine and of pseudouridylic acid in *Agrobacterium tumefaciens*. T. Suzuki and R. M. Hochster, 259.

Metabolism of amino acids in *Agrobacterium tumefaciens*. I. Uptake of L-valine by resting cells. R. M. Behki and R. M. Hochster, 1477.

Hofmann, T. The role of a protease in sporulation of *Penicillium janthinellum*. A. Thangamani and T. Hofmann, 579.

Hošková, J. Postnatal changes in β-galactosidase activity in the jejunum and ileum of mice, rabbits, and guinea pigs. O. Koldovský, A. Heringová, V. Jirsová, F. Chytil, and J. Hošková, 523.

Howell, W. E. Improved technique for separation and identification of bovine beta globulins by starch-gel electrophoresis. M. Makarechian and W. E. Howell, 1089.

Hoyle, R. J. Positional distribution of fatty acids in the fats of a polar bear and a seal. H. Brockerhoff, R. J. Hoyle, and P. C. Huang, 1519.

Huang, I-L. Amino acid metabolism of different mammalian cell lines. R. A. Chung, R. W. Brown, L. H. Beacham, and I-L. Huang, 1145.

Huang, P. C. Positional distribution of fatty acids in the fats of a polar bear and a seal. H. Brockerhoff, R. J. Hoyle, and P. C. Huang, 1519.

Hui, S.-F. Studies on the livetins of egg yolk. III. Heterogeneity and immunoelectrophoretic behavior of beta-livetin. S.-F. Hui and R. H. Common, 1357.

Idler, D. R. The synthesis of cholesterol glucopyranosiduronate. F. Nagayama, A. Saito, and D. R. Idler, 1109.

Sterols in Irish moss (*Chondrus crispus*). A. Saito and D. R. Idler, 1195.

Inamdar, A. N. Purification and properties of an inducible β-glucosidase of bakers' yeast. A. N. Inamdar and J. G. Kaplan, 1099.

Jackson, M. A. Enzymes of pentose biosynthesis. I. Separation of pentose cycle enzymes of *Escherichia coli*. W. Yaphe, D. D. Christensen, J. E. Biaglow, M. A. Jackson, and H. Z. Sable, 91.

Jacoli, G. G. Accumulation of guanine nucleotides in the acid-soluble fraction of *Bacillus subtilis* inhibited by actinomycin D. G. G. Jacoli and S. H. Zbarsky, 9.

Janado, M. Separation and properties of pig-serum lipoproteins. M. Janado, W. G. Martin, and W. H. Cook, 1201.

Jared, D. W. A general method for the isolation and purification of phosvitin from vertebrate eggs. R. A. Wallace, D. W. Jared, and A. Z. Eisen, 1647.

Jirsová, V. Postnatal changes in β-galactosidase activity in the jejunum and ileum of mice, rabbits, and guinea pigs. O. Koldovský, A. Heringová, V. Jirsová, F. Chytil, and J. Hošková, 523.

Jones, J. B. Steroids and steroidases. II. A general gas–liquid chromatographic assay for steroidases and its application to the C-1,2-dehydrogenase of *Bacillus sphaericus*. J. B. Jones, V. Vlasinich, and J. D. Leman, 1183.

Kahlenberg, A. Differences in the glucose metabolism and insulin responsiveness of rat and human adipose tissue. A. Kahlenberg, J. Rubinger, and N. Kalant, 645.

The effect of insulin and diabetes on glucose metabolism in human skin. A. Kahlenberg and N. Kalant, 801.

Kakade, M. L. Chemical and enzymatic determinations of available lysine in raw and heated navy beans (*Phaseolus vulgaris*). M. L. Kakade and R. J. Evans, 648.

Kalant, N. Differences in the glucose metabolism and insulin responsiveness of rat and human adipose tissue. A. Kahlenberg, J. Rubinger, and N. Kalant, 645.

The effect of insulin and diabetes on glucose metabolism in human skin. A. Kahlenberg and N. Kalant, 801.

Kalmakoff, J. Enolase activity in marine planktonic algae. N. J. Antia, J. Kalmakoff, and A. Watt, 449.

Kaplan, J. G. Purification and properties of an inducible β-glucosidase of bakers' yeast. A. N. Inamdar and J. G. Kaplan, 1099.

Kates, M. Biosynthesis of lipids in plants. II. Incorporation of glycerophosphate-^{32}P into phosphatides by cell-free preparations from spinach leaves. P. S. Sastry and M. Kates, 459.

Synthesis of glycerol-1,3-diphosphate. M. Kates, B. Palameta, and T. H. Chan, 707.

Keeler, R. F. Teratogenic compounds of *Veratrum californicum* (Durand). II. Production of ovine fetal cyclopia by fractions and alkaloid preparations. R. F. Keeler and W. Binns, 829.

Keswani, G. The effect of thyroxine on the uptake and metabolism of ^{3}H-DL-adrenaline by the small intestine of rat in vitro. G. Keswani and A. D'Iorio, 1607.

Kim, H. C. The activity of lactate dehydrogenase isozymes during thyroxine-induced tadpole metamorphosis. H. C. Kim, A. D'Iorio, and W. K. Paik, 303.

Kinsella, J. E. Metabolic patterns of the fatty acids of *Periplaneta americana* (L.) during its embryonic development. J. E. Kinsella, 247.

Klein, G. P. The rate of formation of C-21 steroid sulfates from 4-^{14}C-progesterone by human newborn adrenal slices. G. P. Klein and C. J. P. Giroud, 1005.

Biological activity of corticosterone and 11-deoxycorticosterone C-21 ester sulfates compared with that of the corresponding steroid-free alcohols. G. P. Klein and C. J. P. Giroud, 1505.

Koeppe, R. E. Degradation of the carbon skeleton of glutamic acid. R. E. Koeppe, 1289.
Koldovský, O. Postnatal changes in β-galactosidase activity in the jejunum and ileum of mice, rabbits, and guinea pigs. O. Koldovský, A. Heringová, V. Jirsová, F. Chytil, and I. Hošková, 523.
Koppel, J. L. Surface uptake of the azo dye luxol ARN by human platelets. R. M. Lycette, W. F. Danforth, J. L. Koppel, and J. H. Olwin, 161.
The hydrolysis of phenylalanine methyl ester by bovine thrombin. E. R. Cole, J. L. Koppel, and J. H. Olwin, 1051.
Krotoski, W. A. Effects of starch concentration on the resolution of serum proteins by gel electrophoresis. A six-species comparison. W. A. Krotoski, D. C. Benjamin, and H. E. Weimer, 545.
Erratum: Effects of starch concentration on the resolution of serum proteins by gel electrophoresis. A six-species comparison. W. A. Krotoski, D. C. Benjamin, and H. E. Weimer, 1569.
Kuksis, A. Quantitative precipitation of various 3β-hydroxysterols with digitonin. H. L. Haust, A. Kuksis, and J. M. R. Beveridge, 119.
Excretion of bile acids by three men on a fat-free diet. S. S. Ali, A. Kuksis, and J. M. R. Beveridge, 957.
Excretion of bile acids by three men on corn oil and butterfat diets. S. S. Ali, A. Kuksis, and J. M. R. Beveridge, 1377.
Lakshmanan, M. A device for precise regulation of air pressure in ion-exchange columns. M. Lakshmanan, 391.
Laliberté, M. Metabolism of *N*-acetyl-L-aspartic acid in mice. L. Berlinguet and M. Laliberté, 783.
Lambremont, E. N. Lipid biosynthesis in the boll weevil. Formation of the acetate precursor for lipid synthesis from glucose and related carbohydrates. E. N. Lambremont and A. F. Bennett, 1597.
Lamirande, G. de. Distribution of the nucleases of the microsomal fraction of rat liver between ribosomes and endoplasmic membranes. G. de Lamirande, S. Boileau, and R. Morais, 273.
Lane, B. G. The characteristic alkali-stable dinucleotide sequences in each of the 16S and 23S components of ribosomal ribonucleates from *Escherichia coli*. J. L. Nichols and B. G. Lane, 1633.
Laplante, C. Aldosterone and corticosterone production by rat adrenal slices as a function of the time of incubation. C. Laplante and J. Stachenko, 85.
Launay, M. P. The measurement of human thyroxine-binding proteins by electrophoresis on cellulose acetate membranes. Studies on a spurious fourth thyroxine-binding component. M. P. Launay, 1657.
Lawrence, C. H. Characterization of deoxyribonucleic acid from *Streptomyces scabies*. C. H. Lawrence and M. C. Clark, 1685.
Leman, J. D. Steroids and steroidases. II. A general gas–liquid chromatographic assay for steroidases and its application to the C-1,2-dehydrogenase of *Bacillus sphaericus*. J. B. Jones, V. Vlasinich, and J. D. Leman, 1183.
Lemonde, A. Aldolase activity in confused flour beetle, *Tribolium confusum* Duval (Tenebrionidae, Coleoptera). K. D. Chaudhary, U. Srivastava, and A. Lemonde, 155.
In vivo synthesis and breakdown of deoxyribonucleic acid in *Tribolium confusum* Duval. K. D. Chaudhary and A. Lemonde, 1571.
LePage, G. A. A proposed mechanism for the action of 9-β-D-arabinofuranosyladenine as an inhibitor of the growth of some ascites cells. J. L. York and G. A. LePage, 19.
A kinetic study of the deamination of some adenosine analogues. Substrate specificity of adenosine deaminase. J. L. York and G. A. LePage, 331.
Leung, T. C. Multiple forms of lactate dehydrogenase and aspartate aminotransferase in herring (*Clupea harengus harengus* L.). P. H. Odense, T. M. Allen, and T. C. Leung, 1319.
Lishchenko, V. F. Fatty-acid composition of normal mink tissues. B. L. Walker and V. F. Lishchenko, 179.
Logan, J. E. A technique of preparative paper chromatography. A. E. Pasieka and J. E. Logan, 149.
Lowden, J. A. The isolation and characterization of an acid-soluble protein from myelin. J. A. Lowden, M. A. Moscarello, and R. Morecki, 567.
Lundquist, C.-G. Factors influencing the utilization of reduced nicotinamide adenine dinucleotide by pigeon heart mitochondria. M. C. Blanchaer, C.-G. Lundquist, and T. J. Griffith, 105.
Lupien, P. J. Effects of pyridoxine deficiency and dietary cholesterol supplementation in the chick on plasma protein-bound iodine, glutamic–oxalacetic transaminase activity, and ^{14}C-acetate incorporation into cholesterol. P. J. Lupien, 625.

Lusena, C. V. Heterogeneity and differential fragility of rat liver mitochondria. C. V. Lusena and F. Depocas, 497.
Structural changes associated with the release of enzymes from rat-liver mitochondria by freezing. C. V. Lusena and C. M. S. Dass, 775.
Lycette, R. M. Surface uptake of the azo dye luxol ARN by human platelets. R. M. Lycette, W. F. Danforth, J. L. Koppel, and J. H. Olwin, 161.
Lyman, R. L. Effect on the rat pancreas of feeding DL-ethionine, with and without adenosine triphosphate, for 1 to 10 days. R. L. Lyman, S. Thenen, and R. Tucker, 1345.
Macbeth, R. A. The effect of oxyphenbutazone (Tandearil) on the level of the seromucoid fraction of rats bearing Walker 256 carcinoma. R. A. Macbeth and F. Martin, 1293.
MacLachlan, J. The identification of dimethyl-β-propiothetin in the algae *syracosphaera carterae* and *ulva lactuca*. C. S. Tocher, R. G. Ackman, and J. MacLachlan, 519.
MacQuillan, A. M. Solubilization and heterogeneous nature of proteins from ribosomes of pea-seedling buds. A. M. MacQuillan and S. T. Bayley, 1221.
Mager, M. Tissue lactic dehydrogenase isozymes. Developmental patterns in the neonatal rat. W. F. Blatt, C. M. Blatteis, and M. Mager, 537.
Makarechian, M. Improved technique for separation and identification of bovine beta globulins by starch-gel electrophoresis. M. Makarechian and W. E. Howell, 1089.
Manery, J. F. Potassium stimulation of oxidation and phosphorylation in pigeon-muscle mitochondria. G. J. Marcus and J. F. Manery, 1127.
Relation of the metabolism of pigeon-muscle mitochondria to the net uptake of potassium and its selection over sodium. G. J. Marcus, J. F. Manery, and E. E. Dryden, 1133.
Manning, J. P. Determination of acid phosphatase activity in tissue homogenates. J. P. Manning, A. L. Babson, M. C. Butler, and S. F. Priester, 755.
Manohar, S. V. The metabolism of the erythrocyte. XVI. Incorporation of glucose into adenine nucleotides by human and rabbit erythrocytes. S. V. Manohar, O. F. Denstedt, and D. Rubinstein, 59.
Marcus, G. J. Potassium stimulation of oxidation and phosphorylation in pigeon-muscle mitochondria. G. J. Marcus and J. F. Manery, 1127.
Relation of the metabolism or pigeon-muscle mitochondria to the net uptake of potassium and its selection over sodium. G. J. Marcus, J. F. Manery, and E. E. Dryden, 1133.
Martin, F. The effect of oxyphenbutazone (Tandearil) on the level of the seromucoid fraction of rats bearing Walker 256 carcinoma. R. A. Macbeth and F. Martin, 1293.
Martin, W. G. Ovalbumin and other water-soluble proteins in avian yolk during embryogenesis. Z. Saito and W. G. Martin, 293.
Separation and properties of pig-serum lipoproteins. M. Janado, W. G. Martin, and W. H. Cook, 1201.
Matheson, A. T. The effect of magnesium starvation on the localization of peptidase activity in *Escherichia coli* B. T. Murayama and A. T. Matheson, 654.
The limited release of ribosomal peptidase during formation of *Escherichia coli* spheroplasts. A. T. Matheson and T. Murayama, 1407.
Mattson, F. H. A nutritional comparison of rapeseed oil and soybean oil. J. C. Alexander and F. H. Mattson, 35.
McCalla, A. G. The effects of sulfur content on the properties of wheat gluten. D. Yoshino and A. G. McCalla, 339.
McCarter, A. The biological differentiation of ^{99}Mo and ^{99}Tc^{m} in rabbits and its effect on the gamma-counting rate of plasma samples. G. A. Robinson and A. McCarter, 363.
McConnell, W. B. The utilization of ammonium chloride-^{15}N by uredospores of wheat stem rust. W. B. McConnell and E. W. Underhill, 1511.
McGeer, P. L. Increased excretion of formimino-glutamic acid by vitamin B_{12}-deficient rats after a load of DL-homocystine or oxidized glutathione. N. P. Sen and P. L. McGeer, 286.
McKinley, W. P. The effect of parathion on the liver and kidney carboxylesterases and the plasma acetylcholinesterases of rats fed nutritionally deficient diets. S. I. Read, E. J. Middleton, and W. P. McKinley, 809.
Melius, P. Purification of plant glutamic acid decarboxylase. P. Melius, 145.
Mertz, E. T. Studies on plasminogen. IV. Alteration of bovine and human plasminogens during isolation. J. Y. S. Chan and E. T. Mertz, 469.
Studies on plasminogen. V. Purification of bovine and human plasminogens by Sephadex chromatography. J. Y. S. Chan and E. T. Mertz, 475.
Studies on plasminogen. VI. Activation products of bovine and human plasminogens. J. Y. S. Chan and E. T. Mertz, 487.
Metcalfe, L. J. On the in vitro development of pseudo-tryptophan synthase activity by extracts of *Neurospora crassa* mutant strains *td*$_{6}$ and *td*$_{126}$. S. D. Wainwright, S. D. Halcrow, and L. J. Metcalfe, 651.

Middleton, E. J. The effect of parathion on the liver and kidney carboxylesterases and the plasma acetylcholinesterases of rats fed nutritionally deficient diets. S. I. Read, E. J. Middleton, and W. P. McKinley, 809.

Miedema, E. The oxidation of ethanolamine by plant tissue preparations. K. E. Richardson, E. Miedema, and S. L. Vandor, 1271.

Misra, U. K. Fatty acids of brain in hypervitaminosis A in rats. U. K. Misra, 1539.

Missala, K. The influence of cocaine on the metabolism of adrenaline in vivo and on the storage and release of catecholamines in isolated chromaffin granules. K. Missala, E. Fitt, and A. D'Iorio, 585.

Moloney, P. J. The effectiveness of exogenous guinea pig insulin in the ox insulin immune guinea pig. M. A. Aprile, A. E. Tirpak, and P. J. Moloney, 1417.

Mookerjea, S. Impairment of plasma glycoprotein synthesis in early choline deficiency. S. Mookerjea, 1064.

Morais, R. Distribution of the nucleases of the microsomal fraction of rat liver between ribosomes and endoplasmic membranes. G. de Lamirande, S. Boileau, and R. Morais, 273.

Morecki, R. The isolation and characterization of an acid-soluble protein from myelin. J. A. Lowden, M. A. Moscarello, and R. Morecki, 567.

Morgan, J. F. Studies on the in vitro antitumor activity of fatty acids. VII. Effect of amino acid – fatty acid salts. S. Tolnai and J. F. Morgan, 979.

Morrison, A. B. Evaluation of protein in foods. XII. Effects of calorie restriction. M. N. Rao and A. B. Morrison, 1365.

Morrison, I. M. The analysis of neutral glycoses in biological materials by gas–liquid partition chromatography. I. M. Morrison and M. B. Perry, 1115.

Morse, W. I. Estrogen synthesis in normal and hypogonadal men. Quantitative studies on the precursor role of testosterone. B. J. Epstein, M. C. Raheja, E. Frow, and W. I. Morse, 971.

Moscarello, M. A. The isolation and characterization of an acid-soluble protein from myelin. J. A. Lowden, M. A. Moscarello, and R. Morecki, 567.

Murayama, T. The effect of magnesium starvation on the localization of peptidase activity in *Escherichia coli* B. T. Murayama and A. T. Matheson, 654.

The limited release of ribosomal peptidase during formation of *Escherichia coli* spheroplasts. A. T. Matheson and T. Murayama, 1407.

Myers, D. K. Nucleic acid synthesis in X-irradiated thymocytes. D. K. Myers and K. Skov, 839.

Myoda, T. Inhibition of yeast metabolism by 2-deoxyglucose, 6-deoxy-6-fluoroglucose and the corresponding galactose derivatives. E. R. Blakley, T. Myoda, and J. F. T. Spencer, 927.

Nagayama, F. The synthesis of cholesterol glucopyranosiduronate. F. Nagayama, A. Saito, and D. R. Idler, 1109.

Neelin, J. M. Enzymic activities in pre-rigor and post-rigor sarcoplasmic extracts of chicken pectoral muscle. J. M. Neelin and D. J. Ecobichon, 735.

Newsome, W. H. Fatty acid ethyl ester formation by plasma in vitro. W. H. Newsome and J. B. M. Rattray, 219.

Erratum: The enzymatic esterification of ethanol with fatty acids. W. H. Newsome and J. B. M. Rattray, 1689.

Nichols, J. L. The characteristic alkali-stable dinucleotide sequences in each of the 16S and 23S components of ribosomal ribonucleates from *Escherichia coli*. J. L. Nichols and B. G. Lane, 1633.

Nilsen, M. Peripheral interconversion of phenolic steroids in the human. R. Hobkirk, M. Nilsen, and E. Purre, 1211.

Nixon, J. C. Toxohormone in bacteria-free tumors. J. C. Nixon and B. Zinman, 1069.

Odense, P. H. Multiple forms of lactate dehydrogenase and aspartate aminotransferase in herring (*Clupea harengus harengus* L.). P. H. Odense, T. M. Allen, and T. C. Leung, 1319.

Constituents of the hemolymph of the lobster, *Homarus americanus* Milne Edwards. J. E. Stewart, J. R. Dingle, and P. H. Odense, 1447.

Oh, Y. H. Physicochemical properties of S-zone and base proteins in gluten. Y. H. Oh, B. E. Sanders, and C. W. Gehrke, 917.

Okany, A. Phospholipids. III. Supplementary data on the correlation of chemical structure with thromboplastic activity. A. Okany, and L. Palagy, 1235.

Oliver, W. T. A quantitative method for the determination of cholinesterase activity after starch-gel electrophoresis. H. S. Funnell and W. T. Oliver, 953.

Olwin, J. H. Surface uptake of the azo dye luxol ARN by human platelets. R. M. Lycette, W. F. Danforth, J. L. Koppel, and J. H. Olwin, 161.

The hydrolysis of phenylalanine methyl ester by bovine thrombin. E. R. Cole, J. L. Koppel, and J. H. Olwin, 1051.

Paik, W. K. The activity of lactate dehydrogenase isozymes during thyroxine-induced tadpole metamorphosis. H. C. Kim, A. D'Iorio, and W. K. Paik, 303.

Painter, R. H. Fragmentation of immunoglobulin during storage. G. E. Connell and R. H. Painter, 371.

The efficacy of fragmented immune serum globulin in passive immunization. R. H. Painter, M. J. Walcroft, and J. C. W. Weber, 381.

Palagy, L. Phospholipids. III. Supplementary data on the correlation of chemical structure with thromboplastic activity. A. Okany and L. Palagy, 1235.

Palameta, B. Synthesis of glycerol-1,3-diphosphate. M. Kates, B. Palameta, and T. H. Chan, 707.

Pande, S. V. Acetate metabolism in mycobacteria. R. Parvin, S. V. Pande, and T. A. Venkitasubramanian, 355.

Parvin, R. Acetate metabolism in mycobacteria. R. Parvin, S. V. Pande, and T. A. Venkitasubramanian, 355.

Pasieka, A. E. A technique of preparative paper chromatography. A. E. Pasieka and J. E. Logan, 149.

Paterson, A. R. P. The enzymic formation of 6-(methylmercapto)purine ribonucleoside 5′-phosphate. I. C. Caldwell, J. F. Henderson, and A. R. P. Paterson, 229.

Erratum: The enzymic formation of 6-(methylmercapto)purine ribonucleoside 5′-phosphate. I. C. Caldwell, J. F. Henderson, and A. R. P. Paterson, 1291.

Inhibitors of nucleoside metabolism. A. R. P. Paterson and A. I. Simpson, 1423.

Patrick, S. J. Effects of phenformin and hypoglycin on gluconeogenesis of rat tissues. S. J. Patrick, 27.

Perlin, A. S. An improved preparative method for D-erythrose 4-phosphate. A. S. Sieben, A. S. Perlin, and F. J. Simpson, 663.

Perris, A. D. Isolation of the epithelial cells of the rat small intestine. A. D. Perris, 687.

Perry, M. B. The analysis of neutral glycoses in biological materials by gas–liquid partition chromatography. I. M. Morrison and M. B. Perry, 1115.

Peterson, C. A. Participation of the glyoxylate cycle in the metabolism of ethanol by castor bean endosperm tissues. C. A. Peterson and E. A. Cossins, 423.

Phillips, W. E. J. Effect of dietary nitrite on the liver storage of vitamin A in the rat. W. E. J. Phillips, 1.

Use of liver homogenates for studies on the intracellular site of ubiquinone biosynthesis. W. E. J. Phillips, M. Hidiroglou, and G. Hatina, 1615.

Polglase, W. J. Regulation of acetohydroxy acid synthetase in streptomycin-dependent *Escherichia coli*. W. J. Polglase, 599.

Regulation of acetohydroxy acid synthetase in streptomycin-dependent *Escherichia coli* K-12. W. J. Polglase, 607.

Valine sensitivity of *Escherichia coli* K-12. I. D. Desai and W. J. Polglase, 1403.

Priester, S. F. Determination of acid phosphatase activity in tissue homogenates. J. P. Manning, A. L. Babson, M. C. Butler, and S. F. Priester, 755.

Prothero, J. W. Concerning possible myosin subunits. J. W. Prothero, 393.

Proulx, L. The metabolism of catecholamines in hyperthyroid and vitamin B_{12} deficient rats. L. Proulx, A. D'Iorio, and M. Beznak, 1577.

Purre, E. Peripheral interconversion of phenolic steroids in the human. R. Hobkirk, M. Nilsen, and E. Purre, 1211.

Pushpathadam, J. J. Study of the metabolism of 2-hydroxy-4-aminobutyric acid, a product of γ-hydroxyglutamic acid decarboxylation. L. P. Bouthillier, J. J. Pushpathadam, and Y. Binette, 171.

Raheja, M. C. Estrogen synthesis in normal and hypogonadal men. Quantitative studies on the precursor role of testosterone. B. J. Epstein, M. C. Raheja, E. Frow, and W. I. Morse, 971.

Rao, K. V. J. Lipoamino acids. Synthesis of amino acid esters of phosphatidyl glycerols. E. Baer and K. V. J. Rao, 899.

Rao, M. N. Evaluation of protein in foods. XII. Effects of calorie restriction. M. N. Rao and A. B. Morrison, 1365.

Rattray, J. B. M. Fatty acid ethyl ester formation by plasma in vitro. W. H. Newsome and J. B. M. Rattray, 219.

Erratum: The enzymatic esterification of ethanol with fatty acids. W. H. Newsome and J. B. M. Rattray, 1689.

Raud, H. R. Biosynthesis of steroid sulfates by a rat liver preparation. H. R. Raud and R. Hobkirk, 657.

Read, G. Studies on the biosynthesis of volucrisporin. II. Metabolism of some phenylpropanoid compounds by *Volucrispora aurantiaca* Haskins. P. Chandra, G. Read, and L. C. Vining, 403.

Read, S. I. The effect of parathion on the liver and kidney carboxylesterases and the plasma acetylcholinesterases of rats fed nutritionally deficient diets. S. I. Read, E. J. Middleton, and W. P. McKinley, 809.

Richardson, K. E. The oxidation of ethanolamine by plant tissue preparations. K. E. Richardson, E. Miedema, and S. L. Vandor, 1271.

Richardson, R. G. The occurrence and role of α-keto-δ-guanidinovaleric acid in white spruce (*Picea glauca* (Moench) Voss). D. J. Durzan and R. G. Richardson, 141.

Rimon, A. Studies on the activation of plasminogen. III. Insoluble derivatives of the pro-activator and the activator. S. Rimon, Y. Stupp, and A. Rimon, 415.

Rimon, S. Studies on the activation of plasminogen. III. Insoluble derivatives of the pro-activator and the activator. S. Rimon, Y. Stupp, and A. Rimon, 415.

Roberts, T. L. Acetyl esterase in *Bacillus cereus* spores. T. L. Roberts and H. Rosenkrantz, 671.

Lipase and acetyl esterase activities in intact *Bacillus coagulans* spores. T. L. Roberts and H. Rosenkrantz, 677.

Robinson, G. A. The biological differentiation of ^{99}Mo and ^{99}Tc^{m} in rabbits and its effect on the gamma-counting rate of plasma samples. G. A. Robinson and A. McCarter, 363.

Rochefort, J. G. Agents affecting lipid metabolism. XXIII. The effect of an inhibitor of cholesterol biosynthesis on the incorporation of precursors of phosphatides in rat serum and tissues. P. Hill and J. G. Rochefort, 1239.

Rogers, C. G. Effects of phenothiazines on growth, glucose uptake, and cell composition in *Tetrahymena pyriformis* W. C. G. Rogers, 1493.

Romans, R. G. Heterogeneity of insulin. I. Isolation of a chromatographically purified, high-potency insulin and some of its properties. W. W. Dillon and R. G. Romans, 1171.

Rosenkrantz, H. Acetyl esterase in *Bacillus cereus* spores. T. L. Robert and H. Rosenkrantz, 671.

Lipase and acetyl esterase activities in intact *Bacillus coagulans* spores. T. L. Roberts and H. Rosenkrantz, 677.

Rossiter, R. J. Metabolism of Ehrlich ascites tumor in vitro. Subcellular distribution of phospholipids newly formed from ^{14}C-labeled precursors. V. Donisch and R. J. Rossiter, 1461.

Roy, C. Lytic enzymes in the digestive juice of *Helix pomatia*. Chitinases and muramidases. H. Takeda, G. A. Strasdine, D. R. Whitaker, and C. Roy, 509.

Roy, J. Synthesis of nucleoside diphosphates and triphosphates by a salmon milt enzyme preparation. H. L. A. Tarr and J. Roy, 197.

Incorporation of radioactive compounds into the purine and pyrimidine bases and 2-deoxyribose of salmon testes deoxyribonucleic acid. H. L. A. Tarr and J. Roy, 1435.

Roy, J. E. Lingcod muscle guanine deaminase. J. E. Roy, 1093.

Rubenstein, B. The effect of fasting on esterification of palmitate by rat liver in vitro. B. Rubenstein and D. Rubinstein, 129.

Rubinger, J. Differences in the glucose metabolism and insulin responsiveness of rat and human adipose tissue. A. Kahlenberg, J. Rubinger, and N. Kalant, 645.

Rubinstein, D. The metabolism of the erythrocyte. XVI. Incorporation of glucose into adenine nucleotides by human and rabbit erythrocytes. S. V. Manohar, O. F. Denstedt, and D. Rubinstein, 59.

The effect of fasting on esterification of palmitate by rat liver in vitro. B. Rubenstein and D. Rubinstein, 129.

The stabilization of hepatic glycogen synthetase at 37 °C by glucose-6-phosphate and anaerobiosis. P. R. Weldon and D. Rubinstein, 591.

Sable, H. Z. Enzymes of pentose biosynthesis. I. Separation of pentose cycle enzymes of *Escherichia coli*. W. Yaphe, D. D. Christensen, J. E. Biaglow, M. A. Jackson, and H. Z. Sable, 91.

Saito, A. The synthesis of cholesterol glucopyranosiduronate. F. Nagayama, A. Saito, and D. R. Idler, 1109.

Sterols in Irish moss (*Chondrus crispus*). A. Saito and D. R. Idler, 1195.

Saito, Z. Ovalbumin and other water-soluble proteins in avian yolk during embryogenesis. Z. Saito and W. G. Martin, 293.

Sanders, B. E. Physicochemical properties of S-zone and base proteins in gluten. Y. H. Oh, B. E. Sanders, and C. W. Gehrke, 917.

Sasaki, L. Passive cutaneous anaphylaxis induced in guinea pigs by insulins and their component chains. S. Wilson, M. A. Aprile, and L. Sasaki, 989.

Sastry, P. S. Biosynthesis of lipids in plants. II. Incorporation of glycerophosphate-^{32}P into phosphatides by cell-free preparations from spinach leaves. P. S. Sastry and M. Kates, 459.

Scaife, J. F. An enzymatic evaluation of thiol radioprotectors. J. F. Scaife, 319.
The effect of lethal doses of X-irradiation on the enzymatic activity of mitochondrial cytochrome *c*. J. F. Scaife, 433.
Sen, N. P. Increased excretion of formimino-glutamic acid by vitamin B_{12}-deficient rats after a load of DL-homocystine or oxidized glutathione. N. P. Sen and P. L. McGeer, 286.
Serdarevich, B. Synthesis and characterization of 1- and 2-monoglyceryl ethers of anteiso fatty alcohols, and reinvestigation of benzylidene glycerol synthesis. B. Serdarevich and K. K. Carroll, 743.
Sgoutas, D. The lipids in normal chicken liver. D. Sgoutas, 763.
Sieben, A. S. An improved preparative method for D-erythrose 4-phosphate. A. S. Sieben, A. S. Perlin, and F. J. Simpson, 663.
Simpson, A. I. Inhibitors of nucleoside metabolism. A. R. P. Paterson and A. I. Simpson, 1423.
Simpson, F. J. An improved preparative method for D-erythrose 4-phosphate. A. S. Sieben, A. S. Perlin, and F. J. Simpson, 663.
Skov, K. Nucleic acid synthesis in X-irradiated thymocytes. D. K. Myers and K. Skov, 839.
Skřivanová, J. Activating effect of purines on the liver tryptophan pyrrolase system. F. Chytil, J. Skřivanová, and H. Braná, 283.
Sourkes, T. L. Metabolism of vanillin and related substances in the rat. K. P. Wong and T. L. Sourkes, 635.
Properties of purified, soluble monoamine oxidase. M. B. H. Youdim and T. L. Sourkes, 1397.
Sparkes, B. G. Acid-soluble sulfhydryl compounds in L-cells during various conditions of growth. B. G. Sparkes and I. G. Walker, 1159.
Spencer, J. F. T. Inhibition of yeast metabolism by 2-deoxyglucose, 6-deoxy-6-fluoroglucose and the corresponding galactose derivatives. E. R. Blakley, T. Myoda, and J. F. T. Spencer, 927.
Spencer, M. A non-enzymatic model for ethylene production from β-alanine. J. E. Thompson, T. A. Tribe, and M. Spencer, 389.
Srivastava, U. Aldolase activity in confused flour beetle, *Tribolium confusum* Duval (Tenebrionidae, Coleoptera). K. D. Chaudhary, U. Srivastava, and A. Lemonde, 155.
Proteolytic enzymes in normal and dystrophic mouse muscle. L. Berlinguet and U. Srivastava, 613.
Stachenko, J. Aldosterone and corticosterone production by rat adrenal slices as a function of the time of incubation. C. Laplante and J. Stachenko, 85.
Stanacev, N. Z. Phosphonolipids. VI. Chemical and enzymatic degradation for study of structure. E. Baer and N. Z. Stanacev, 893.
Steiner, G. Fatty acid synthesis and control in brown adipose tissue homogenates. G. Steiner, and G. F. Cahill, Jr., 1587.
Stern, J. R. Carboxylation of crotonyl-CoA by mammalian enzyme systems. E. R. Tustanoff and J. R. Stern, 861.
Stewart, J. E. Constituents of the hemolymph of the lobster, *Homarus americanus* Milne Edwards. J. E. Stewart, J. R. Dingle, and P. H. Odense, 1447.
Strasdine, G. A. Lytic enzymes in the digestive juice of *Helix pomatia*. Chitinases and muramidases. H. Takeda, G. A. Strasdine, D. R. Whitaker, and C. Roy, 509.
Stupp, Y. Studies on the activation of plasminogen. III. Insoluble derivatives of the proactivator and the activator. S. Rimon, Y. Stupp, and A. Rimon, 415.
Suzuki, T. On the biosynthesis of pseudouridine and of pseudouridylic acid in *Agrobacterium tumefaciens*. T. Suzuki and R. M. Hochster, 259.
Takeda, H. Lytic enzymes in the digestive juice of *Helix pomatia*. Chitinases and muramidases. H. Takeda, G. A. Strasdine, D. R. Whitaker, and C. Roy, 509.
Tarr, H. L. A. Synthesis of nucleoside diphosphates and triphosphates by a salmon milt enzyme preparation. H. L. A. Tarr and J. Roy, 197.
Incorporation of radioactive compounds into the purine and pyrimidine bases and 2-deoxyribose of salmon testes deoxyribonucleic acid. H. L. A. Tarr and J. Roy, 1435.
Thangamani, A. The role of a protease in sporulation of *Penicillium janthinellum*. A. Thangamani and T. Hofmann, 579.
Thenen, S. Effect on the rat pancreas of feeding DL-ethionine, with and without adenosine triphosphate, for 1 to 10 days. R. L. Lyman, S. Thenen, and R. Tucker, 1345.
Thompson, J. E. A non-enzymatic model for ethylene production from β-alanine. J. E. Thompson, T. A. Tribe, and M. Spencer, 389.
Tirpak, A. E. The effectiveness of exogenous guinea pig insulin in the ox insulin immune guinea pig. M. A. Aprile, A. E. Tirpak, and P. J. Moloney, 1417.
Tocher, C. S. The identification of dimethyl-β-propiothetin in the algae *syracosphaera carterae* and *ulva lactuca*. C. S. Tocher, R. G. Ackman, and J. MacLachlan, 519.

Toews, C. J. Intracellular distribution and some properties of hexokinase of bovine adrenal medulla. C. J. Toews, 879.

Tolnai, S. Studies on the in vitro antitumor activity of fatty acids. VII. Effect of amino – fatty acid. S. Tolnai and J. F. Morgan, 979.

Tove, S. B. Uncoupling of oxidative phosphorylation by vanadate. J. N. Hathcock, C. H. Hill, and S. B. Tove, 983.

Townsend, G. F. The in vivo antitumor activity of certain short chain fatty acids. G. F. Townsend, N. Baxter, W. H. Brown, and E. E. Felauer, 209.

Traikov, H. Tests for 11β-hydroxyprogesterone and other C-21 steroids. H. Traikov and M. K. Birmingham, 291.

Tribe, T. A. A non-enzymatic model for ethylene production from β-alanine. J. E. Thompson, T. A. Tribe, and M. Spencer, 389.

Tucker, R. Effect on the rat pancreas of feeding DL-ethionine, with and without adenosine triphosphate, for 1 to 10 days. R. L. Lyman, S. Thenen, and R. Tucker, 1345.

Tustanoff, E. R. Carboxylation of crotonyl-CoA by mammalian enzyme systems. E. R. Tustanoff and J. R. Stern, 861.

Umaña, R. Interence of autolytic activity with the determination cell nucleus composition under different conditions of protein deficiency. R. Umaña, 187.

Changes produced by protein malnutrition in the concentration of deoxyribonucleic acid in human liver. R. Umaña, 455.

Underhill, E. W. The utilization of ammonium chloride-^{15}N by uredospores of wheat stem rust. W. B. McConnell and E. W. Underhill, 1511.

Vandor, S. L. The oxidation of ethanolamine by plant tissue preparations. K. E. Richardson, E. Miedema, and S. L. Vandor, 1271.

Venkitasubramanian, T. A. Acetate metabolism in mycobacteria. R. Parvin, S. V. Pande, and T. A. Venkitasubramanian, 355.

Vining, L. C. Studies on the biosynthesis of volucrisporin. II. Metabolism of some phenylpropanoid compounds by *Volucrispora aurantiaca* Haskins. P. Chandra, G. Read, and L. C. Vining, 403.

Biosynthesis of oosporein in *Beauveria bassiana* (Bals.) vuill. S. H. El Basyouni and L. C. Vining, 557.

Vitti, T. G. Isotope effects in metabolism of ^{14}N and ^{15}N from unlabeled dietary proteins. O. H. Gaebler, T. G. Vitti, and R. Vukmirovich, 1249.

Vlasinich, V. Steroids and steroidases. II. A general gas–liquid chromatographic assay for steroidases and its application to the C-1,2-dehydrogenase of *Bacillus sphaericus*. J. B. jones, V. Vlasinich, and J. D. Leman, 1183.

Vukmirovich, R. Isotope effects in metabolism of ^{14}N and ^{15}N from unlabeled dietary proteins. O. H. Gaebler, T. G. Vitti, and R. Vukmirovich, 1249.

Wainwright, L. K. Regulation of the initiation of hemoglobin synthesis in the blood island cells of chick embryos. I. Qualitative studies of the effects of actinomycin and δ-aminolevulinic acid. S. D. Wainwright and L. K. Wainwright, 1543.

Wainwright, S. D. Evidence of a microsomal factor required for in vitro development of pseudo-tryptophan synthase activity by extracts of *Neurospora crassa*. S. D. Wainwright, 77.

On the in vitro development of pseudo-tryptophan synthase activity by extracts of *Neurospora crassa* mutant strains *td*$_8$ and *td*$_{120}$. S. D. Wainwright, S. D. Halcrow, and L. J. Metcalfe, 651.

Regulation of the initiation of hemoglobin synthesis in the blood island cells of chick embryos. I. Qualitative studies of the effects of actinomycin and δ-aminolevulinic acid. S. D. Wainwright and L. K. Wainwright, 1543.

Walcroft, M. J. The efficacy of fragmented immune serum globulin in passive immunization. R. H. Painter, M. J. Walcroft, and J. C. W. Weber, 381.

Walker, B. L. Fatty acid composition of normal mink tissues. B. L. Walker and V. F. Lishchenko, 179.

Walker, I. G. Acid-soluble sulfhydryl compounds in L-cells during various conditions of growth. B. G. Sparkes and I. G. Walker, 1159.

Wallace, R. A. A general method for the isolation and purification of phosvitin from vertebrate eggs. R. A. Wallace, D. W. Jared, and A. Z. Eisen, 1647.

Watt, A. Enolase activity in marine planktonic algae. N. J. Antia, J. Kalmakoff, and A. Watt, 449.

Weber, J. C. W. The efficacy of fragmented immune serum globulin in passive immunization. R. H. Painter, M. J. Walcroft, and J. C. W. Weber, 381.

Weimer, H. E. Effects of starch concentration on the resolution of serum proteins by gel electrophoresis. A six-species comparison. W. A. Krotoski, D. C. Benjamin, and H. E. Weimer, 545.

Erratum: Effects of starch concentration on the resolution of serum proteins by gel electrophoresis. A six-species comparison. W. A. Krotoski, D. C. Benjamin, and H. E. Weimer, 1569.

Weinberger, P. Changes in the amino acid content of the first three leaves of Rideau wheat following vernalization. P. Weinberger and C. Godin, 1035.

Weinstein, H. M. Glycolytic metabolites and their distribution at death in the white and red muscle of cod following various degrees of antemortem muscular activity. D. I. Fraser, W. J. Dyer, H. M. Weinstein, J. R. Dingle, and J. A. Hines, 1015.

Weldon, P. R. The stabilization of hepatic glycogen synthetase at 37 °C by glucose-6-phosphate and anaerobiosis. P. R. Weldon and D. Rubinstein, 591.

Wetter, L. R. Biosynthesis of mustard oil glucosides. VII. Formation of sinigrin in horseradish from homomethionine-2-^{14}C and homoserine-2-^{14}C. M. D. Chisholm and L. R. Wetter, 1625.

Whitaker, D. R. Lytic enzymes in the digestive juice of *Helix pomatia*. Chitinases and muramidases. H. Takeda, G. A. Strasdine, D. R. Whitaker, and C. Roy, 509.

Wilson, S. Passive cutaneous anaphylaxis induced in guinea pigs by insulins and their component chains. S. Wilson, M. A. Aprile, and L. Sasaki, 989.

Wong, K. F. Occurrence and some properties of *N*-5,*N*-10-methylenetetrahydrofolate dehydrogenase in plants. K. F. Wong and E. A. Cossins, 1400.

Wong, K. P. Metabolism of vanillin and related substances in the rat. K. P. Wong and T. L. Sourkes, 635.

Yaphe, W. Enzymes of pentose biosynthesis. I. Separation of pentose cycle enzymes of *Escherichia coli*. W. Yaphe, D. D. Christensen, J. E. Biaglow, M. A. Jackson, and H. Z. Sable, 91.

York, J. L. A proposed mechanism for the action of 9-β-D-arabinofuranosyladenine as an inhibitor of the growth of some ascites cells. J. L. York and G. A. LePage, 19.

A kinetic study of the deamination of some adenosine analogues. Substrate specificity of adenosine deaminase. J. L. York and G. A. LePage, 331.

Yoshino, D. The effects of sulfur content on the properties of wheat gluten. D. Yoshino and A. G. McCalla, 339.

Youdim, M. B. H. Properties of purified, soluble monoamine oxidase. M. B. H. Youdim and T. L. Sourkes, 1397.

Younathan, E. S. Studies on solubilized adenylate kinase from mitochondria. M. A. Brewster and E. S. Younathan, 1469.

Zbarsky, S. H. Accumulation of guanine nucleotides in the acid-soluble fraction of *Bacillus subtilis* inhibited by actinomycin D. G. G. Jacoli and S. H. Zbarsky, 9.

Zinman, B. Toxohormone in bacteria-free tumors. J. C. Nixon and B. Zinman, 1069.